

PROGRAM SUMMARY

Understanding and Managing Water Resources for the Future 28th Annual Meeting of the Wisconsin Section of the American Water Resources Association

Hotel Mead, Wisconsin Rapids, Wisconsin

Thursday, March 4th, 2004

9:00 - 2:30 **Registration** – *Atrium*

11:30 - Noon **Business meeting and election** – *Riverside Ballroom*

Noon - 1:00 **Lunch** – *Riverside Ballroom*

1:00 - 2:20 **Plenary session on Understanding and Managing Water Resources for the Future** – *Riverside Ballroom*

Moderators: Doug Cherkauer, University of Wisconsin – Milwaukee and Brent Brown, CH2M Hill

Russell Van Herik, Executive Director of the Great Lakes Protection Fund
Val Klump, Senior Scientist at the Great Lakes WATER Institute at UW-Milwaukee

Lon Couillard, Water Quality Manager for the City of Milwaukee Water Works

Mary Ellen Bruesch, Environmental Hygienist for the City of Milwaukee Health Department

2:30 - 3:30 **Concurrent Sessions 1 and 2**

Session 1 – Contaminant Treatment – *Grand Ballroom Salon A*

Moderator: Madeline Gotkowitz, Wisconsin Geological and Natural History Survey

2:30 - *Diffusion-Controlled Adsorption of Cd²⁺ on Base Treated Juniper Fiber (BTJF) Continuous Fixed Column Study. S. H. Min, J. K. Park, R. M. Rowell and M. Jang.

2:50 - *Arsenate Partitioning Among Iron Oxide Nanocrystals. N. L. Aschbrenner, R. L. Penn, A. C. Knudsen and K. J. Nordell.

3:10 - *Photoactive Removal of As (III) from Water Using Novel Al₂O₃ /TiO₂ Photoactive Material. T. J. Lee, E. Lee and M. A. Anderson

Session 2 – Runoff – *Grand Ballroom Salon C*

Moderator: Anita Thompson, University of Wisconsin - Madison

2:30 - Assessing Infiltration at a Stormwater Basin Serving a Residential Neighborhood, Middleton, Wisconsin. C. P. Dunning, R. T. Bannerman and P. F. Juckem.

2:50 - Monitoring and Sampling Design for Water Runoff at UW Platteville Pioneer Farms. D. W. Owens and T. Hunt.

3:10 - *Snowmelt Export of Sediment and Nutrients from Agricultural Sub-watersheds in Southwest Wisconsin. R. M. Mentz, M. R. Penn, S. Jonnala and D. W. Owens.

3:30 - 3:50 **Break – *Atrium***

3:50 - 5:10 **Concurrent Sessions 3 and 4**

Session 3 – Aquifer Storage and Recovery – *Grand Ballroom Salon A*

Moderator: Maureen Muldoon, University of Wisconsin - Oshkosh

3:50 - *Defining Controlling Factors of Aquifer Storage Recovery Using Advection and Dispersion Models. C.S. Lowry and M. P. Anderson.

4:10 - Aquifer Storage and Recovery Pilot Testing in Wisconsin. R. T. Roth, D. M. Johnson and W. L. Phelps.

4:30 - Geochemical Reactions During Green Bay ASR Pilot Testing. D. M. Johnson, W. L. Phelps and R. T. Roth.

4:50 - *An Assessment of Aquifer Storage and Recovery and Mercury Methylation in the South Florida Everglades Ecosystem. R. M. Hodo, D. P. Krabbenhoft and M. P. Anderson.

Session 4 – Groundwater–Surface Water Interaction – *Grand Ballroom Salon C*

Moderator: David Hart, Wisconsin Geological and Natural History Survey

3:50 - *Hydrogeologic Controls on Springs in the Mukwonago River Watershed, Southeast Wisconsin. H. E. Gittings and J. M. Bahr.

4:10 - Spatial Patterns and Temporal Trends in Groundwater Recharge, Upper Coon Creek Watershed, Southwest Wisconsin. P. F. Juckem, R. J. Hunt, and M. P. Anderson.

4:30 - *An Integrated Modeling Approach to Analyze Groundwater-Lake Interactions: Trout Lake Basin, Northern Wisconsin. R. John, M. P. Anderson and R. J. Hunt.

4:50 - Measuring Groundwater-Surface Water Interaction and its Effect on Wetland Stream Benthic Productivity, Trout Lake Watershed, Northern Wisconsin. R. J. Hunt, M. Strand and J. F. Walker.

5:30 - 7:00 **Poster Session and Social Hour - Grand Ballroom Salon B**

Removal of Arsenate Using Lanthanum Oxide Immobilized Highly Ordered Mesostructured Silicate. M. Jang, J. K. Park, E. W. Shin, S. I. Choi, J. Naser, S. H. Min, S. C. Kim and S. B. Rho.

Initial Evaluation of Hydrologic Response at a 3-Year Old Phytoremediation Site. W. M. DeVita and M. Dawson.

*A Novel Fabrication Method for Large, Diverse Arrays of Optical Fiber Sensors with Potential Applications in Water Security. P. Geissinger, R. Olsson, E. J. Kiefer and A. W. Schwabacher

*Relationships Between Land Use and Water Quality on Lakes Helen and Lions, Portage County, Wisconsin. L. W. Hennigan and K. A. Rasmussen.

*Assessing the Utility of Historical Spring Surveys in Dane County. D. R. Ginder-Vogel and S. K. Swanson.

*The Groundwater and Surface Water Relationship in the Ridge's Sanctuary, Door County, WI. L. R. Evenson, R. D. Stieglitz, P. Sager, and K. Fermanich.

Low-Flow Purging and Sampling of Groundwater at Argonne National Laboratory – East, East Northeast Landfill. R. E. Piorkowski and D. A. Milinko

wiscLITH: A Database of Wisconsin Geological Information. M. B. Gotkowitz, R. M. Peters, T. J. Evans, A. Santipiomkul and B. C. Bristoll.

Evaluating Groundwater Phosphorus Concentrations in Wisconsin Through Private Well Testing. P. M. McGinley and R. Stevens

*Electrical Resistivity Survey of a Site in Vilas County, Wisconsin. L. R. Atkinson and W. Kean

*Important Steps for Processing and Analyzing Biological Samples for Methylmercury. L. E. Pons, P. R. Gorski, R. J. Moore and J. P. Hurley.

*Applying a Health Behavior Theory to Understand Responses to Arsenic Risk from Well Water. D. J. Severtson, L. C. Baumann and R. L. Shepard.

*A Utilization-focused and Theory-based Evaluation of an Arsenic Well Testing Program. D. J. Severtson, L. C. Baumann and R. L. Shepard.

7:00 **Banquet** – *Riverside Ballroom*

Speaker: Tom Lochner, Executive Director, Wisconsin State Cranberry Growers Association

Wisconsin's Cranberry Industry: A description of the history, methods and economics of this unique agricultural industry

Friday, March 5th, 2004

7:00 - 8:00 AWRA Board of Directors Breakfast – *Aspen Room*

8:00 - 9:40 **Concurrent Sessions 5 and 6**

Session 5 – Groundwater Contaminants – *Grand Ballroom Salon A*

Moderator: Tim Grundl, University of Wisconsin - Milwaukee

8:00 - *Geochemical and Environmental Controls on Arsenic in Groundwater near Lake Geneva, Wisconsin. T. L. Root, J. M. Bahr and M. B. Gotkowitz.

8:20 - *Viruses, Hormones, Pharmaceuticals and Other Household Products as Potential Groundwater Contaminants from On-site Wastewater Treatment Systems. J. D. Wilcox, J. M. Bahr and K. R. Bradbury.

8:40 - Susceptibility of Municipal Wells in LaCrosse, Wisconsin, to Enteric Virus Contamination from Surface Water Contributions. M. Borchardt, R. J. Hunt, N. Haas, P. Bertz and S. Spencer.

9:00 - Groundwater Nitrate and Pesticide Penetration and Trends: The Springfield Corners Profile. G. J. Kraft, W. M. DeVita and B. A. Browne.

9:20 - Groundwater Denitrification: The Springfield Corners Vertical Profile. B. A. Browne, G. J. Kraft and W. M. DeVita.

Session 6 – Surface Water Studies – *Grand Ballroom Salon C*

Moderator: Charles Dunning, U. S. Geological Survey

8:00 - *Trends in Boating Use on Geneva Lake. A.R. Bock and T. W. Peters

8:20 - *Increased Diatom Colony Size Induced by a Chemical Cue from Daphnia. L. A. Pansch and D. J. Poister.

8:40 - *2003 PBDE Levels in Lake Michigan Fish. J. Hahm, J. B. Manchester-Neesvig and W. C. Sonzogni.

9:00 - *Speciation Controls on the Fate and Transport of Mercury and Methylmercury Across Biogeochemical Gradients. S. P. Chadwick, C. L. Babiarz, J. P. Hurley and D. E. Armstrong.

9:20 - *Role of the Hyporheic Zone in Methylmercury Production and Transport to Allequash Creek. M. H. Meyer

9:40 - 10:00 **Break – Atrium**

10:00 - 11:40 **Concurrent Sessions 7 and 8**

Session 7 – Groundwater Studies – Grand Ballroom Salon A

Moderator: Kevin Masarik, Center for Watershed Science and Education,
University of Wisconsin Extension

10:00 - Simulating Impacts of Land Use and Groundwater Flow on the Temperature of Wisconsin Trout Streams. S. J. Gaffield, T. W. Rayne, K. R. Bradbury and L. Wang.

10:20 - Groundwater Modeling Investigation of Lockport Prairie Nature Preserve, Lockport, Illinois. G. B. Parish.

10:40 - The Influence of Glacial Till, Outwash, and Lacustrine Deposits on Lakes, Streams, and Groundwater in the Menominee Indian Reservation, Wisconsin. G. F. Howlett, Jr. and C. P. Dunning.

11:00 - Using Time-Domain Electromagnetics to Map the Transition of an Aquifer to an Aquitard. D. J. Hart and C. L. Thomas.

11:20 - Vertical Distribution of Hydraulic Conductivity in Cambrian Sandstones near Madison, Wisconsin. K. R. Bradbury, D. J. Hart and D. L. LePain.

11:40 - Announcement of student paper award winners

Session 8 – Water Management – Grand Ballroom Salon C

Moderator: Kevin Fermanich, University of Wisconsin – Green Bay

10:00 - Chemical Terrorism Preparedness and Environmental Resources – Dual Role for State Laboratories. W. C. Sonzogni and D. D. Degenhardt.

10:20 - Using an Ecological Currency Approach to Measure Resource Improvements in Southeastern Wisconsin. B. A. Brown.

10:40 - Restoration of Devil's Lake (Sauk County, Wisconsin) by Hypolimnetic Withdrawal. R. C. Lathrop, T. J. Astfalk, J. C. Panuska and D. W. Marshall.

11:00 - Factors Affecting Variability in Flow in the Little Plover River. N. Earl Spangenberg.

11:20 - Use of Surface Waters From Lake Mendota for Cogeneration Electric Power Facility. J. M. Jaeckels, J. C. Kucher, K. G. Johnson and S. G. Josheff.

11:40 - Announcement of student paper award winners

12:30 - 2:30 **Student Career Workshop** – *Grand Ballroom Salon B*